January 1971

Test 1071: Kubota L-210 Diesel 6-Speed

Tractor Museum
University of Nebraska-Lincoln, TractorMuseumArchives@unl.edu

NEBRASKA TRACTOR TEST 1071 – KUBOTA L-210 DIESEL 6-SPEED

POWER TAKE-OFF PERFORMANCE

Hp	Crank-shaft speed rpm	Fuel Consumption Gal per hr	Fuel Consumption Lb per hp-hr	Hp-hr per gal	Temperature Degrees F Cooling medium	Temperature Degrees F Air wet bulb	Temperature Degrees F Air dry bulb	Barometer inches of Mercury
MAXIMUM POWER AND FUEL CONSUMPTION								
Rated Engine Speed—Two Hours (PTO Speed—650 rpm)								
19.10	2700	1.427	0.519	13.38	230	67	75	28.993
Standard Power Take-off Speed (540 rpm)—One Hour								
16.49	2243	1.250	0.527	13.19	231	67	77	28.980
VARYING POWER AND FUEL CONSUMPTION—Two Hours								
16.47	2740	1.222	0.515	13.48	220	68	77	.....
0.00	2820	0.483	.....	.....	170	68	76	.....
8.36	2778	0.790	0.657	10.58	195	68	76	.....
19.32	2700	1.468	0.528	13.16	233	68	76	.....
4.21	2806	0.613	1.012	6.87	183	67	75	.....
12.48	2766	0.984	0.548	12.68	207	67	75	.....
Av 10.14	**2768**	**0.927**	**0.635**	**10.94**	**201**	**68**	**76**	**28.980**

DRAWBAR PERFORMANCE

Hp	Draw-bar pull lbs	Speed miles per hr	Crank-shaft speed rpm	Slip of drivers %	Fuel Consumption Gal per hr	Fuel Consumption Lb per hp-hr	Hp-hr per gal	Temp Degrees F Cool-ing med	Temp Degrees F Air wet bulb	Temp Degrees F Air dry bulb	Barometer inches of Mercury
VARYING DRAWBAR POWER AND FUEL CONSUMPTION WITH BALLAST											
Maximum Available Power—Two Hours—5th Gear (3 Lo)											
14.06	1049	5.02	2693	7.57	1.294	0.639	10.86	228	68	87	28.715
75% of Pull at Maximum Power—Ten Hours—5th Gear (3 Lo)											
11.47	831	5.18	2725	5.83	1.086	0.657	10.56	214	66	84	28.829
50% of Pull at Maximum Power—Two Hours—5th Gear (3 Lo)											
8.24	579	5.34	2750	3.87	0.899	0.757	9.17	201	70	87	28.730
MAXIMUM POWER WITH BALLAST											
12.67	2020	2.35	2699	14.97	4th Gear (2 Hi)			206	63	67	28.900
14.69	1095	5.03	2697	7.51	5th Gear (3 Lo)			211	65	72	28.900
11.58	418	10.39	2699	3.50	6th Gear (3 Hi)			212	67	74	28.900
MAXIMUM PULL WITHOUT BALLAST											
9.16	1428	2.41	2735	14.87	4th Gear (1 Hi) ..			208	70	90	28.900

VARYING DRAWBAR PULL AND TRAVEL SPEED WITH BALLAST
5th Gear (3 Lo)

Pounds Pull	1095	1224	1218	1187	1117	1008
Horsepower	14.69	14.57	12.83	11.03	9.01	6.82
Crankshaft Speed rpm	2697	2419	2142	1884	1628	1355
Miles Per Hour	5.03	4.46	3.95	3.49	3.03	2.54
Slip of Drivers %	7.51	8.49	8.57	8.32	7.81	7.03

TRACTOR SOUND LEVEL WITHOUT CAB	dB(A)
Maximum Available Power 2 Hours	96.5
75% of Pull at Max. Power 10 Hours	95.5
50% of Pull at Max. Power 2 Hours	95.5
Bystander 6th gear (3 Hi)	80.0

TIRES, BALLAST and WEIGHT		With Ballast	Without Ballast
Rear tires	—No, size, ply & psi	Two 9.5-24; 4; 14	Two 9.5-24; 4; 12
Ballast	—Liquid	125 lb each	None
	Cast iron	390 lb each	None
Front tires	—No, size, ply & psi	Two 4.00-15; 4; 36	Two 4.00-15; 4; 36
Ballast	—Liquid	None	None
	Cast iron	130 lb each	None
Height of drawbar		18 inches	18½ inches
Static weight with operator—rear		2570 lb	1540 lb
front		1040 lb	780 lb
total		3610 lb	2320 lb

Department of Agricultural Engineering

Dates of Test: June 4 to June 16, 1971

Manufacturer: KUBOTA LTD., Osaka, Japan

FUEL, OIL and TIME Fuel No 2 Diesel **Cetane** No 53.5 (rating taken from oil company's typical inspection data) **Specific gravity converted to 60°/60°** 0.8347 **Weight per gallon** 6.950 lb **Oil** SAE 30 **API service classification MS/DS To motor** 1.192 gal **Drained from motor** 1.051 gal **Tranmission and final drive lubricant** SAE 90 gear lube **Total time engine was operated** 42 hours.

ENGINE Make Kubota Diesel **Type** two cylinder vertical **Serial No** Z1100A-10502 **Crankshaft Mounted** lengthwise **Rated rpm** 2700 **Bore and stroke** 3.46" x 3.46" **Compression rato** 20 to 1 **Displacement** 65.3 cu in **Cranking system** 12 volt electric **Lubrication** pressure **Air cleaner** oil bath with cyclone type precleaner **Oil filter** steel net and replaceable treated paper element **Fuel filter** replaceable paper element **Muffler** was used **Cooling medium temperature control** thermo-siphon.

CHASSIS Type standard **Serial No** L210-19452 **Tread width** rear 35.8" to 49.3" front 36.2" to 52.0" **Wheel base** 59" **Center of gravity** (without operator or ballast, with minimum tread, with fuel tank filled and tractor serviced for operation) Horizontal distance forward from center-line of rear wheels 26.2" Vertical distance above roadway 23.4" Horizontal distance from center of rear wheel tread 0" to the right/left **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio **Advertised speeds mph** first 0.97 second 1.37 third 1.91 fourth 2.74 fifth 5.39 sixth 10.68 reverse 1.39 and 2.75 **Clutch** single plate dry disc operated by foot pedal **Brakes** internal expanding shoes operated by two foot pedals that can be locked together **Steering** mechanical **Turning radius** (on concrete surface with brake applied) right 84" left 84" (on concrete surface without brake) right 94" left 94" **Turning space diameter** (on concrete surface with brake applied) right 178" left 178" (on concrete surface without brake) right 198" left 198" **Power take-off** 540 rpm at 2243 engine rpm.

REPAIRS and ADJUSTMENTS: No repairs or adjustments.

REMARKS: All test results were determined from observed data obtained in accordance with SAE and ASAE test code or Nebraska test procedure. Available gear ratios did not permit running 50% of pull at reduced engine speed. First, second and third gears were not run as it was necessary to limit the pull in fourth gear to avoid excessive wheel slippage.

We, the undersigned, certify that this is a true and correct report of official Tractor Test **1071.**

L. F. LARSEN
Engineer-in-Charge

G. W. STEINBRUEGGE, Chairman
W. E. SPLINTER
D. E. LANE
Board of Tractor Test Engineers

The University of Nebraska Agricultural Experiment Station
E. F. Frolik, Dean; H. W. Ottoson, Director; Lincoln, Nebraska